



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/810,446	03/25/2004	Edward Raymond Dowski JR.	420228	8923
30955	7590	10/07/2005	EXAMINER	
LATHROP & GAGE LC 4845 PEARL EAST CIRCLE SUITE 300 BOULDER, CO 80301			HARRINGTON, ALICIA M	
		ART UNIT	PAPER NUMBER	
			2873	

DATE MAILED: 10/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/810,446	DOWSKI, EDWARD RAYMOND	
	Examiner	Art Unit	
	Alicia M. Harrington	2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 19 July 2005 and 01 August 2005.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-8, 10-12, 14, 16-21 and 23-29 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) 23-29 is/are allowed.
 6) Claim(s) 1-3, 5-8, 14 and 16-21 is/are rejected.
 7) Claim(s) 4 and 10-12 is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 09 September 2004 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>0805</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

- 1. After further review of Yoshida, the Examiner has amended the rejection to apply to the claimed controller as discussed below in claim 1.**

Claim Rejections - 35 USC § 102

- 2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:**

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

- 3. Claims 1,2,6-8, 14, 20-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshida et al (US 5,233,431).**

Regarding claim 1, Yoshida discloses an optical imaging system to variably control image properties of an image, comprising: at least one optical phase filter (10; col. 2, lines 25-35); and

a first controller (for example 46) for positioning the optical phase filter to alter phase of a wave front of the imaging system to select the properties of the image (see col. 2, lines 40-53 and col. 4, lines 15-23), a user interface (42) for selecting the magnitude (half pushed button or fully pushed button) for selecting the magnitude of the at least one of the image properties; and a second controller (control signal from 42 and 38), responsive to user selections at the interface, to direct the first controller (46) to position the optical phase filter and affect the magnitude.

Regarding claim 2, Yoshida discloses the optical imaging system of claim 1, the image properties comprising one or more of depth of focus, aberration tolerance and aliasing properties (col. 2, lines 15-35).

Regarding claim 6, Yoshida discloses the optical imaging system of claim 1, the controller comprising a motor (see col. 4, lines 20-25).

Regarding claim 7, Yoshida discloses the optical imaging system of claim 1, the controller translating the optical phase filter between at least two positions (different angles) wherein the wave front passes through at least two separate portions (lenticular sheet) of the optical phase filter (see col. 4, lines 15-69 and col. 5, lines 40-69).

Regarding claim 8, Yoshida disclosure the optical imaging system of claim 1, the controller rotating the optical phase filter about an optical axis to effect phase changes to the wave front (see col. 4, lines 18-67).

Regarding claim 14, Yoshida discloses a controller comprises an automatic motor and controller (see col. 5, lines 35-67).

Regarding claim 20, Yoshida discloses the optical imaging system of claim 1, the characteristics of the image comprising one or more of depth of focus, depth of field, aliasing properties, and aberration tolerance (see col. 2, lines 15-35).

Regarding claims 21, Yoshida discloses the optical imaging system of claim 1, further comprising means for adjusting one or both of aperture and focal length of the system, the controller repositioning the optical phase filter so that the imaging properties remain substantially fixed irrespective of the means for adjusting (see abstract-see col. 6, lines 20-32).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3,16 and 17-19 rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al (5,233,431).

Regarding claims 3, Yoshida discloses the optical imaging system of claim 1, with a two dimensional phase filter having a two dimensional phase function. Yoshida fails to specifically disclose the at least one optical phase filter comprising first and second optical filters. Thus, Yoshida discloses the claimed invention except for a first and second filter. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a first and second phase filter, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in art. One would have been motivated to make the elements separable for the purpose of ensuring the phase change of the wave in either direction of propagation (orthogonal propagations). In re Dulberg, 289 F.2d 522, 523, 129 USPQ 348, 349 (CCPA 1961). Therefore, it would have been further obvious to have a 2-step phase function to define each filter.

Regarding claim 16-19, Yoshida has an optical filter. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the system with a phase mask, since it is known in the art and would provide a functional equivalent. It would have been further obvious to one of ordinary skill in the art at the time the invention was made to use a cubic phase form, since the image would be provided with a near constant transfer function.

6. Claims 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al (5,233,431) in view of Jackson (US 5,322,998)

Regarding claim 5, Yoshida discloses the optical imaging system of claim 4, however, Yoshida fails to specifically disclose the optical filter comprising aspheric optical elements.

In the same field of endeavor, Jackson discloses an aspheric optical element (24) that produces a blurred image on the imager (see col. 3). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include an aspherical element, since Jackson teaches aspherical blur filters are known in the art, they are less complicated to make, and have a tightly controlled blur pattern which makes processing easier.

Allowable Subject Matter

7. Claims 23-29 are allowed.

8. Claims 4,10-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject Regarding claims 23 and 26, prior art taken either singularly or in combination fails to anticipate or fairly suggest the limitations of the dependent claims, in such manner that a rejection under 35 U. S.C 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in independent claims, which at least include the method of claim 22, further comprising the step of capturing images from the system and post-processing a digital representation of the images to reverse the effects induced by the optical phase filter as claimed.

Regarding claim 29, prior art taken either singularly or in combination fails to anticipate or fairly suggest the limitations of the dependent claims, in such manner that a rejection under 35 U. S.C 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in independent claims, which at least include the step of post-processing data from a detector of the optical system to reverse the effects induced by the optical phase filter and achieve selected image properties as claimed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia M. Harrington whose telephone number is 571 272 2330. The examiner can normally be reached on Monday - Thursday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571 272 2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alicia M Harrington
Examiner
Art Unit 2873


AMH